

*The Maryland Perinatal System Standards*  
*Revised October 2008*

*Recommendations of the*  
*Perinatal Clinical Advisory Committee*



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**THE MARYLAND PERINATAL SYSTEM  
STANDARDS**  
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**THE MARYLAND PERINATAL SYSTEM STANDARDS  
INFORMATION DOCUMENT, REVISED SEPTEMBER 2008**

STANDARD	TITLE	SUMMARY
I	Organization	Refers to the administration of a hospital perinatal program
II	Obstetrical Unit Capabilities	Refers to the resources of equipment, supplies, and personnel needed for the delivery unit within the hospital
III	Neonatal Unit Capabilities	Refers to the resources of equipment, supplies, and personnel needed for the neonatal units within the hospital
IV	Obstetric Personnel	Describes the roles, responsibilities, and availability of obstetric personnel in the perinatal program
V	Pediatric Personnel	Describes the roles, responsibilities, and availability of pediatric personnel in the perinatal program
VI	Other Personnel	Describes the roles, responsibilities, and availability of other personnel in the perinatal program
VII	Laboratory	Refers to the resources of equipment, supplies, and personnel needed for the laboratory unit within the hospital
VIII	Diagnostic Imaging Capabilities	Refers to the resources of equipment, supplies, and personnel needed for diagnostic imaging capabilities within the hospital
IX	Equipment	Refers to the availability of specific equipment needed for the perinatal program
X	Medications	Refers to the availability of specific medications needed for the perinatal program
XI	Education Programs	Refers to the need for education for all health care providers involved in providing perinatal care and to the roles and responsibilities of the hospitals in education

XII	Performance Improvement	Describes the performance improvement process that is required for hospital perinatal programs
XIII	Policies and Protocols	Identifies the administrative and medical policies and protocols that shall be in place for a perinatal program

## LIST OF DEFINITIONS

- I** Level I hospitals have perinatal programs that provide basic care to pregnant women and infants, as described by these standards. These hospitals provide delivery room and normal newborn care for stable infants  $\geq 35$  weeks gestation. Maternal care is limited to term and near-term gestations that are maternal risk appropriate. A physician board-certified or an active candidate for board-certification in obstetrics/gynecology or family medicine with advanced training and privileges for obstetrical care with a formal arrangement with a physician board-certified or an active candidate for board-certification in obstetrics/gynecology shall be a member of the medical staff and have responsibility for programmatic management of obstetrical services. Other than emergency stabilization, the neonatal units do not provide mechanical ventilation. Board-certified pediatricians or family medicine physicians supervise these units. These neonatal units do not provide pediatric subspecialty or neonatal surgical specialty services. These hospitals do not receive primary infant or maternal referrals.
- IIA** Level IIA hospitals have perinatal programs that provide specialty care to pregnant women and infants, as described by these standards. These hospitals provide delivery room and specialized care for stable infants  $\geq 1,500$  grams and  $\geq 32$  weeks gestation. Maternal care is limited to term and preterm gestations that are maternal risk appropriate. Board-certified obstetrician has responsibility for programmatic management of obstetrical services. The neonatal units are supervised by Board-certified pediatricians. The neonatal units provide assisted ventilation only on a limited basis until the infant can be transferred to a higher-level facility. They do not provide pediatric subspecialty or neonatal surgical specialty services. These hospitals do not receive primary infant or maternal referrals.
- IIB** Level IIB hospitals have perinatal programs that provide specialty care to pregnant women and infants, as described by these standards. These hospitals provide delivery room and acute specialized care for infants  $\geq 1,500$  grams and  $\geq 32$  weeks gestation. Maternal care is limited to term and preterm gestations that are maternal risk appropriate. Board-certified obstetrician has responsibility for programmatic management of obstetrical services. The neonatal units are supervised by at least one Board-certified neonatal-perinatal medicine subspecialist. The neonatal units provide mechanical ventilation for up to 24 hours or continuous positive airway pressure. The neonatal units may provide limited pediatric subspecialty services. They do not provide neonatal surgical specialty services. These hospitals do not receive primary infant or maternal referrals.

**IIIA** Level IIIA hospitals have perinatal programs that provide subspecialty care for pregnant women and infants, as described by these standards. These hospitals provide acute delivery room and neonatal intensive care unit (NICU) care for infants  $\geq 1,000$  grams and  $\geq 28$  weeks gestation. Maternal care spans the range of normal term gestation care to the management of moderately complex maternal complications and moderate prematurity. Board-certified obstetrician has responsibility for programmatic management of obstetrical services. Board-certified maternal-fetal medicine specialist has responsibility for programmatic management of high-risk obstetrical services. The neonatal units are supervised by Board-certified neonatal-perinatal medicine subspecialists and offer continuous availability of neonatologists. The neonatal units provide conventional (e.g., tidal volume or continuous airway pressure) mechanical ventilation modes only. Additionally, the neonatal units may have available some pediatric subspecialty services. Neonatal units may perform minor surgical procedures, such as surgical placement of a central vein catheter or repair of an inguinal hernia. Level IIIA perinatal hospitals accept risk-appropriate maternal and neonatal transports.

**IIIB** Level IIIB hospitals have perinatal programs that provide subspecialty care for pregnant women and infants, as described by these standards. These hospitals provide acute delivery room and NICU care for infants of all birth weights and gestational ages. Maternal care spans the range of normal term gestation care to the management of extreme prematurity and moderately complex maternal complications. Board-certified obstetrician has responsibility for programmatic management of obstetrical services. Board-certified maternal-fetal medicine specialist has responsibility for programmatic management of high-risk obstetrical services. The neonatal units are supervised by Board-certified neonatal-perinatal medicine subspecialists and offer continuous availability of neonatologists. Neonatal units provide multiple modes of neonatal ventilation that may include advanced respiratory support, such as high frequency ventilation. In addition, inhaled nitric oxide may or may not be used. Pediatric, rather than adult, subspecialty services may be provided onsite or consultation may be provided at a closely related institution (geographically close institution which allows for emergency transport within 30 minutes travel time between institutions). Pediatric surgical and anesthesiology subspecialists may be on site or at a closely related institution to perform major surgery. Neonatal care capability includes advanced imaging, with interpretation on an urgent basis, including computed tomography, magnetic resonance imaging, and echocardiography. Level IIIB perinatal hospitals accept risk-appropriate maternal and neonatal transports.

**IIIC** Level IIIC hospitals have perinatal programs that provide comprehensive subspecialty obstetrical and neonatal care services, as described by these standards. These hospitals provide acute delivery room and NICU care for infants of all birth weights and gestational ages. Board-certified maternal-fetal medicine subspecialists supervise the units and their services are continuously available. Maternal care provided spans the range of normal term gestation care to that of highly complex or critically ill mothers. In addition, the obstetrical services include management of fetuses who are extremely premature or have complex problems that render significant risk of preterm, delivery, and postnatal complications. The neonatal units are supervised by Board-certified neonatal-perinatal subspecialists and offer continuous availability of neonatologists. Advanced modes of neonatal ventilation and life-support are provided, including high frequency ventilation, nitric oxide and/or extracorporeal membrane oxygenation (ECMO). These neonatal units provide extensive pediatric subspecialty services. Additionally, extensive pediatric subspecialty surgical services are continuously available, including pediatric cardio-thoracic open-heart surgery and pediatric neurosurgery. Level IIIC perinatal hospitals accept maternal and neonatal transports. Maryland's statewide maternal-neonatal transport system is under the leadership of Level IIIC perinatal hospitals in collaboration with DHMH and MIEMSS.

**Board-certified:** means a physician certified by an American Board of Medical Specialties Member Board.

**Immediately available:** a resource available as soon as it is requested.

**In-house:** physically present in the hospital.

**Programmatic responsibility:** the writing, review and maintenance of practice guidelines; policies and procedures; development of operating budget (in collaboration with hospital administration and other program directors); evaluation and guiding of the purchase of equipment; planning, development and coordinating of educational programs (in-hospital and/or outreach as applicable); participation in the evaluation of perinatal care; and participation in perinatal quality improvement and patient safety activities.

**Readily available:** a resource available for use a short time after it is requested.

**30 minutes:** in-house within thirty (30) minutes under normal driving conditions which include, but are not limited to, weather, traffic, and other circumstances that may be beyond the individual's control.

- E** Essential requirement for level of perinatal center
- O** Optional requirement for level of perinatal center
- NA** Not Applicable

NOTE: More details regarding the content of care for each perinatal level of care are contained in the *Guidelines for Perinatal Care, 6<sup>th</sup> Edition*, American Academy of Pediatrics and American College of Obstetricians and Gynecologists, 2007.

**THE MARYLAND PERINATAL SYSTEM DESIGNATION AND VERIFICATION STANDARDS,  
REVISED SEPTEMBER 2008**

	I	IIA	IIB	IIIA	IIIB	IIIC
<b>STANDARD I. ORGANIZATION</b>						
1.1 The hospital's Board of Directors, administration, and medical and nursing staffs shall demonstrate commitment to its specific level of perinatal center designation and to the care of perinatal patients. This commitment shall be demonstrated by:						
a) A Board resolution that the hospital agrees to meet the Maryland Perinatal System Standards for its specific level of designation	E	E	E	E	E	E
b) Participation in the Maryland Perinatal System, as described by this document, including submission of patient care data to the Maryland Department of Health and Mental Hygiene (DHMH) and the Maryland Institute for Emergency Medical Services Systems (MIEMSS), as appropriate, for system and quality management	E	E	E	E	E	E
c) Assurance that all perinatal patients shall receive medical care commensurate with the level of the hospital's designation	E	E	E	E	E	E
d) A Board resolution, bylaws, contracts, budgets -- all specific to the perinatal program -- indicating the hospital's commitment to the financial, human, and physical resources and to the infrastructure that are necessary to support the hospital's level of perinatal center designation	E	E	E	E	E	E
1.2 The hospital shall be licensed by the Maryland Department of Health and Mental Hygiene (DHMH) as an acute care hospital.	E	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
1.3 The hospital shall be accredited by The Joint Commission.	E	E	E	E	E	E
1.4 The hospital shall have a certificate of need (CON) issued by the Maryland Health Care Commission (MHCC) for its neonatal intensive care unit and/or approval from the Health Services Cost Review Commission (HSCRC) for a neonatal intensive care unit cost center.	NA	NA	NA	E	E	E
1.5 The hospital shall obtain and maintain current equipment and technology, as described in these standards, to support optimal perinatal care for the level of the hospital's perinatal center designation.	E	E	E	E	E	E
1.6 If maternal or neonatal air transports are accepted, then the hospital shall have a heliport, helipad, or access to a helicopter landing site near the hospital.	NA	NA	NA	E	E	E
1.7 The hospital shall provide specialized maternal and neonatal transport capability and have extensive statewide perinatal educational outreach programs in both specialties in collaboration with the Maryland Institute for Emergency Medical Services Systems (MIEMSS) and the Maryland Department of Health and Mental Hygiene (DHMH).	NA	NA	NA	O	O	E

		I	IIA	IIB	IIIA	IIIB	IIIC
<b>STANDARD II. OBSTETRICAL UNIT CAPABILITIES</b>							
2.1	The hospital shall demonstrate its capability of providing uncomplicated and complicated obstetrical care through written standards, protocols, or guidelines, including those for the following:						
	a) unexpected obstetrical care problems;	E	E	E	E	E	E
	b) fetal monitoring, including internal scalp electrode monitoring;	E	E	E	E	E	E
	c) initiating a cesarean delivery within 30 minutes of the decision to deliver;	E	E	E	E	E	E
	d) selection and management of obstetrical patients at a maternal risk level appropriate to its capability, or	E	E	E	E	E	E
	e) management of all obstetrical patients	NA	NA	NA	NA	NA	E
2.2	The hospital shall be capable of providing critical care services appropriate for obstetrical patients, as demonstrated by having a critical care unit and a board-certified critical care specialist as an active member of the medical staff.	NA	O	O	E	E	E
2.3	The hospital shall have a written plan for initiating maternal transports to an appropriate level.	E	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
2.4 If maternal transports are accepted from other institutions, then a written protocol for the acceptance of maternal transports shall be in place.	NA	NA	NA	E	E	E
<b>STANDARD III. NEONATAL UNIT CAPABILITIES</b>						
3.1 The hospital shall demonstrate its capability of providing uncomplicated and complicated neonatal care through written standards, protocols, or guidelines, including those for the following:						
a) resuscitation and stabilization of unexpected neonatal problems according to the most current Neonatal Resuscitation Program (NRP) guidelines;	E	E	E	E	E	E
b) selection and management of neonatal patients at a neonatal risk level appropriate to its capability, or	E	E	E	E	E	E
c) management of all neonatal patients, including those requiring advanced modes of neonatal ventilation and life-support, pediatric subspecialty services, and pediatric subspecialty surgical services such as pediatric cardio-thoracic open-heart surgery and pediatric neurosurgery.	NA	NA	NA	NA	NA	E

	I	IIA	IIB	IIIA	IIIB	IIIC
<b>STANDARD IV. OBSTETRIC PERSONNEL</b>						
<b><i>LEADERSHIP</i></b>						
4.1 A physician board-certified or an active candidate for board-certification in obstetrics/gynecology or family medicine with advanced training and privileges for obstetrical care with a formal arrangement with a physician board-certified or an active candidate for board-certification in obstetrics/gynecology shall be a member of the medical staff and have responsibility for programmatic management of obstetrical services.	E	NA	NA	NA	NA	NA
4.2 A physician board-certified in obstetrics/gynecology shall be a member of the medical staff and have responsibility for programmatic management of obstetrical services.	O	E	E	E	E	E
4.3 A physician (or physicians) board-certified or an active candidate for board-certification in maternal-fetal medicine shall be a member of the medical staff and have responsibility for programmatic management of high-risk obstetrical services.	NA	O	O	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
<b><i>COVERAGE FOR URGENT OBSTETRICAL ISSUES</i></b>						
4.4 For a hospital without a physician board-certified in maternal-fetal medicine on the medical staff, there is a written agreement with a consultant who is board-certified or an active candidate for board-certification in maternal-fetal medicine to be available 24 hours a day.	E	E	E	NA	NA	NA
4.5 The hospital shall have a maternal-fetal medicine physician on the medical staff, in active practice and, if needed, in-house within 30 minutes.	O	O	O	E	E	E
4.6 If maternal transports are accepted, then the hospital shall have a maternal-fetal medicine physician on the medical staff, in active practice and, if needed, in-house within 30 minutes.	NA	NA	NA	E	E	E
4.7 A physician or certified nurse-midwife (with obstetrical privileges) shall be readily available to the delivery area when a patient is in active labor.	E	NA	NA	NA	NA	NA
4.8 A physician board-certified or an active candidate for board-certification in obstetrics/gynecology or family medicine (with obstetrical privileges) shall be readily available to the delivery area when a patient is in active labor.	O	E	E	NA	NA	NA
4.9 A physician board-certified or an active candidate for board-certification in obstetrics/gynecology shall be present in-house 24 hours a day; and immediately available to the delivery area when a patient is in active labor.	O	O	O	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
4.10 A physician or certified nurse-midwife (with obstetrical privileges) shall be present at all deliveries.	E	E	E	E	E	E
4.11 A physician board-certified or an active candidate for board-certification in anesthesiology shall be a member of the medical staff and have responsibility for programmatic management of obstetrical anesthesia services.	E	E	E	E	E	E
<b>STANDARD V. PEDIATRIC PERSONNEL</b>						
<b>LEADERSHIP</b>						
5.1 A physician board-certified in pediatrics or family medicine shall be a member of the medical staff, have privileges for neonatal care, and have responsibility for neonatal unit services. For hospitals without a physician board-certified in pediatrics, there shall be a written agreement which provides consultation with a board-certified pediatrician 24 hours a day.	E	NA	NA	NA	NA	NA
5.2 A physician board-certified in pediatrics or in neonatal-perinatal medicine shall be a member of the medical staff, have privileges for neonatal care, and have responsibility for neonatal unit services.	O	E	NA	NA	NA	NA
5.3 A physician (or physicians) board-certified in neonatal-perinatal medicine shall be a member of the medical staff and have full-time responsibility for neonatal special care or intensive care unit services.	NA	O	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
<b><i>COVERAGE FOR URGENT NEONATAL ISSUES</i></b>						
5.4 For hospitals without a physician board-certified in neonatal-perinatal medicine on staff, there shall be a written agreement which provides access to consultation with physicians board-certified in neonatal-perinatal medicine 24 hours a day.	E	E	NA	NA	NA	NA
5.5 Neonatal Resuscitation Program (NRP) trained professional(s) with experience in acute care of the depressed newborn and skilled in neonatal endotracheal intubation and resuscitation shall be immediately available to the delivery and neonatal units.	E	E	E	E	E	E
5.6 A physician who has completed postgraduate pediatric training, a nurse practitioner or physician assistant with privileges for neonatal care appropriate to the level of the nursery shall be immediately available when an infant requires Level II neonatal services such as FiO2 > 40%, assisted ventilation, or cardiovascular support.	NA	E	E	NA	NA	NA
5.7 A physician who has completed postgraduate pediatric training, a nurse practitioner or physician assistant with privileges for neonatal care appropriate to the level of the nursery shall be immediately available 24 hours a day.	NA	O	O	E	NA	NA

	I	IIA	IIB	IIIA	IIIB	IIIC
5.8 A physician who has completed postgraduate pediatric training, a nurse practitioner or physician assistant with privileges for neonatal care appropriate to the level of the nursery shall be present in-house 24 hours a day and assigned to the delivery area and neonatal units and not shared with other units in the hospital.	NA	O	O	O	E	E
5.9 A physician board-certified or an active candidate for board certification in neonatal-perinatal medicine shall be available to be present in-house within 30 minutes.	NA	NA	O	E	E	E
<b><i>NEONATAL SUBSPECIALTY CARE</i></b>						
5.10 The hospital shall have written consultation and referral agreements in place with pediatric cardiology, pediatric surgery, and ophthalmology with experience and expertise in neonatal retinal examination.	O	E	E	NA	NA	NA
5.11 The hospital shall have on staff an ophthalmologist with experience in neonatal retinal examination and a written consulting relationship with pediatric cardiologist(s) and pediatric surgeon(s).	NA	O	O	E	E	NA
5.12 The hospital shall have the following pediatric specialists on staff, in active practice and, if needed, in-house within 30 minutes: cardiology, neurology, genetics.	NA	NA	O	O	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
5.13 The hospital shall have pediatric general surgeon(s), and the following pediatric specialists on staff, in active practice and, if needed, in-house within 30 minutes: hematology, endocrinology, pulmonary, gastrointestinal, renal.	NA	NA	O	O	O	E
5.14 The hospital shall have the following pediatric surgical subspecialists on staff, in active practice and, if needed, in-house with-in 30 minutes: neurosurgery, cardiothoracic surgery, orthopedic surgery, plastic surgery, ophthalmology.	NA	NA	O	O	O	E
<b>STANDARD VI. OTHER PERSONNEL</b>						
6.1 A physician board-certified or an active candidate for board-certification in anesthesiology or a nurse-anesthetist shall be available so that cesarean delivery may be initiated per hospital protocol as stated in Standard 2.1c.	E	E	E	E	E	E
6.2 A physician board-certified or an active candidate for board-certification in anesthesiology or a nurse-anesthetist (working under the supervision of a physician board-certified or an active candidate for board certification in anesthesiology) shall be readily available to the delivery area when a patient is in active labor.	O	E	E	NA	NA	NA
6.3 A physician board-certified or an active candidate for board-certification in anesthesiology shall be present in-house 24 hours a day, readily available to the delivery area.	O	O	O	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
6.4 If the hospital performs neonatal surgery, then a board-certified anesthesiologist with experience in neonatal anesthesia shall be present for the surgery.	NA	NA	NA	E	E	E
6.5 The hospital shall have a physician on the medical staff with privileges for providing critical interventional radiology services for:  a) obstetrical patients b) neonatal patients	O NA	O NA	O NA	E NA	E O	E E
6.6 The hospital shall have obstetric and neonatal diagnostic imaging available 24 hours a day, with interpretation by physicians with experience in maternal and/or neonatal disease and its complications.	E	E	E	E	E	E
6.7 The hospital shall have a registered dietician or other health care professional with knowledge of and experience in adult and neonatal parenteral/enteral high-risk management on staff.	O	O	O	E	E	E
6.8 The hospital shall have an International Board Certified Lactation Consultant on full-time staff who shall have programmatic responsibility for lactation support services which shall include education and training of additional hospital staff members in order to ensure availability seven days per week of dedicated lactation support.	E	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
6.9 The hospital shall have a licensed social worker with a Master's degree (either an LGSW, Licensed Graduate Social Worker, or an LCSW, Licensed Certified Social Worker) and experience in psychosocial assessment and intervention with women and their families readily available to the perinatal service.	E	NA	NA	NA	NA	NA
6.10 The hospital shall have a licensed social worker with a Master's degree (either an LGSW, Licensed Graduate Social Worker, or an LCSW, Licensed Certified Social Worker) and experience in psychosocial assessment and intervention with women and their families dedicated to the perinatal service.	O	E	E	E	E	E
6.11 The hospital shall have a licensed social worker with a Master's degree (either an LGSW, Licensed Graduate Social Worker, or an LCSW, Licensed Certified Social Worker) and experience in psychosocial assessment and intervention with women and their families dedicated to the NICU.	O	O	O	O	E	E
6.12 The hospital shall have respiratory therapists skilled in neonatal ventilator management:						
a) available when an infant is receiving assisted ventilation	NA	NA	E	NA	NA	NA
b) present in-house 24 hours a day	NA	NA	O	E	E	NA
c) assigned to the NICU and not shared with other units 24 hours a day	NA	NA	NA	O	O	E

	I	IIA	IIB	IIIA	IIIB	IIIC
6.13 The hospital shall have genetic diagnostic and counseling services or written consultation and referral agreements for these services in place.	E	E	E	E	E	E
6.14 The hospital shall have a pediatric neurodevelopmental follow-up program or written referral agreements for neurodevelopmental follow-up.	O	O	O	E	E	E
6.15 The hospital perinatal program shall have on its administrative staff a registered nurse with a Master's or higher degree in nursing or a health-related field and experience in high-risk obstetric and neonatal nursing who shall have programmatic responsibility for the obstetrical and neonatal nursing services.	E	E	E	E	E	E
6.16 A hospital perinatal program shall have nurses with special expertise in obstetrical and neonatal nursing identified for staff education.	E	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
<p>6.17 The hospital perinatal service shall have:</p> <p>a) A registered nurse skilled in the recognition and nursing management of complications of labor and delivery readily available if needed to the labor and delivery unit 24 hours a day.</p> <p>b) A registered nurse skilled in the recognition and management of complications in women and newborns readily available to the obstetrical unit 24 hours a day.</p> <p>c) A registered nurse with demonstrated training and experience in the assessment, evaluation and care of patients in labor present at all deliveries.</p> <p>d) A registered nurse with demonstrated training and experience in the assessment, evaluation, and care of newborns readily available to the neonatal unit 24 hours a day.</p>	E	E	E	E	E	E
<p>6.18 A hospital perinatal program that performs neonatal surgery shall have nurses on staff with special expertise in perioperative management of neonates.</p>	NA	NA	NA	E	E	E
<p>6.19 The hospital shall have a written plan for assuring registered nurse/patient ratios as per current <i>Guidelines For Perinatal Care</i>.</p>	E	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
<b>STANDARD VII. LABORATORY</b>						
7.1 The programmatic leaders of the perinatal service in conjunction with the hospital laboratory shall establish laboratory processing and reporting times to ensure that these are appropriate for samples drawn from obstetric and neonatal patients with specific consideration for the acuity of the patient and the integrity of the samples.	E	E	E	E	E	E
7.2 The hospital laboratory shall demonstrate the capability to immediately receive, process, and report urgent/emergent obstetric and neonatal laboratory requests.	E	E	E	E	E	E
7.3 The hospital laboratory shall have a process in place to report critical results to the obstetric and neonatal services.	E	E	E	E	E	E
7.4 Laboratory results from standard maternal antepartum testing shall be available to the providers caring for the mother and the neonate prior to discharge. If test results are not available or if testing was not performed prior to admission, such testing shall be performed during the hospitalization of the mother and results available prior to discharge of the newborn.	E	E	E	E	E	E
7.5 The hospital shall have the capacity to conduct rapid HIV testing 24 hours a day.	E	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
7.6 The hospital shall have a laboratory capable of performing the following tests 24 hours a day: a) fetal scalp blood pH (if fetal scalp blood pH testing is being utilized at the hospital) b) fetal lung maturity tests	E	E	E	E	E	E
7.7 The hospital shall have available the equipment and trained personnel to perform newborn hearing screening prior to discharge on all infants born at or transferred to the institution as required by the Universal Newborn Hearing Screening, Diagnosis, and Intervention Guidelines.	E	E	E	E	E	E
7.8 Blood bank technicians shall be present in-house 24 hours a day.	E	E	E	E	E	E
7.9 The hospital shall have molecular, cytogenic, and biochemical genetic testing available or written consultation and referral agreements for these services in place.	O	O	O	E	E	E
<b>STANDARD VIII. DIAGNOSTIC IMAGING CAPABILITIES</b>						
8.1 Portable obstetric ultrasound equipment, with the services of appropriate support staff, shall be present in the delivery area.	O	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
8.2 If portable obstetric ultrasound equipment is not present in the delivery area, then the equipment, with the services of appropriate support staff, shall be available to the delivery area.	E	NA	NA	NA	NA	NA
8.3 Portable x-ray equipment, with the services of appropriate support staff, shall be available to the neonatal units.	E	E	E	E	E	E
8.4 Portable head ultrasound for newborns, with the services of appropriate support staff, shall be available to the neonatal units.	O	E	E	E	E	E
8.5 Computerized tomography (CT) capability, with the services of appropriate support staff, shall be available on campus.	O	O	O	E	E	E
8.6 Magnetic resonance imaging (MRI) capability, with the services of appropriate support staff, shall be available on campus.	O	O	O	E	E	E
8.7 Neonatal echocardiography equipment and experienced technician shall be available on campus as needed with interpretation by pediatric cardiologist.	O	O	O	E	E	E
8.8 The hospital shall have a pediatric cardiac catheterization laboratory and appropriate staff.	O	O	O	O	O	E

	I	IIA	IIB	IIIA	IIIB	IIIC
8.9 The hospital shall have equipment for performing interventional radiology services for:						
a) obstetrical patients	O	O	O	E	E	E
b) neonatal patients	NA	NA	NA	NA	O	E
<b>STANDARD IX. EQUIPMENT</b>						
9.1 The hospital shall have all of the following equipment and supplies immediately available for existing patients and for the next potential patient:	E	E	E	E	E	E
a) O2 analyzer, stethoscope, intravenous infusion pumps						
b) radiant heated bed in delivery room and available in the neonatal units						
c) oxygen hood with humidity						
d) bag and masks capable of delivering a controlled concentration of oxygen to the infant						
e) orotracheal tubes						
f) aspiration equipment						
g) laryngoscope						
h) umbilical vessel catheters and insertion tray						
i) cardiac monitor						
j) pulse oximeter						
k) phototherapy unit						
l) doppler blood pressure for neonates						
m) cardioversion/defibrillation capability for mothers and neonates						
n) resuscitation equipment for mothers and neonates						
o) individual oxygen, air, and suction outlets for mothers and neonates						
p) emergency call system						

	I	IIA	IIB	IIIA	IIIB	IIIC
9.2 The hospital shall have a neonatal intensive care unit bed set up and equipment available at all times for an emergency admission.	O	O	O	E	E	E
9.3 The hospital shall have fetal diagnostic testing and monitoring equipment for:  a) non-stress and stress testing b) ultrasound examinations c) amniocentesis	E E O	E E E	E E E	E E E	E E E	E E E
9.4 The hospital shall have the capability to monitor neonatal intra-arterial pressure.	O	O	E	E	E	E
9.5 The hospital shall have laser coagulation capability for retinopathy of prematurity.	O	O	O	O	E	E
9.6 The hospital shall have a full range of invasive maternal monitoring available to the delivery area, including equipment for central venous pressure and arterial pressure monitoring.	O	O	O	E	E	E
9.7 The hospital shall have appropriate equipment (including back-up equipment) for neonatal respiratory care as well as protocols for the use and maintenance of the equipment as required by its defined level status.	E	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
9.8 The hospital shall be capable of providing advanced ventilatory support for neonates of all birth weights.	NA	NA	NA	NA	O	E
<b>STANDARD X. MEDICATIONS</b>						
10.1 Emergency medications, as listed in the <i>Neonatal Resuscitation Program</i> of the American Academy of Pediatrics/American Heart Association (AAP/AHA), shall be present in the delivery area and neonatal units.	E	E	E	E	E	E
10.2 The following medications shall be immediately available to the neonatal units: a) Antibiotics, anticonvulsants, and emergency cardiovascular drugs b) Surfactant, prostaglandin E1	E O	E O	E E	E E	E E	E E
10.3 All emergency resuscitation medications to initiate and maintain resuscitation, in accordance with Advanced Cardiac Life Support (ACLS) guidelines, shall be present in the delivery area.	E	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
<p>10.4 The following medications shall be in the delivery area or immediately available to the delivery area:</p> <ul style="list-style-type: none"> <li>a) Oxytocin (Pitocin)</li> <li>b) Methylergonovine (Methergine)</li> <li>c) 15-methyl prostaglandin F2 (Prostin)</li> <li>d) Misoprostol (Cytotec)</li> <li>e) Carboprost tromethamine (Hemabate)</li> </ul>	E	E	E	E	E	E
<b>STANDARD XI. EDUCATION PROGRAMS</b>						
11.1 The hospital shall have identified minimum competencies for perinatal clinical staff, not otherwise credentialed, that are assessed prior to independent practice and on a regular basis thereafter.	E	E	E	E	E	E
11.2 The hospital shall provide continuing education programs for physicians, nurses, and allied health personnel on staff concerning the treatment and care of obstetrical and neonatal patients.	E	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
<p>11.3 A hospital that accepts maternal or neonatal primary transports shall provide the following to the referring hospital/providers:</p> <ul style="list-style-type: none"> <li>a) Guidance on indications for consultation and referral of patients at high risk</li> <li>b) Information about the accepting hospital's response times and clinical capabilities</li> <li>c) Information about alternative sources for specialized care not provided by the accepting hospital</li> <li>d) Guidance on the pre-transport stabilization of patients</li> <li>e) Feedback on the pre-transport care of patients</li> </ul>	NA	NA	NA	E	E	E
<b>STANDARD XII. PERFORMANCE IMPROVEMENT</b>						
<p>12.1 The hospital shall have a multi-disciplinary continuous quality improvement program for improving maternal and neonatal health outcomes that includes initiatives to promote patient safety including safe medication practices, Universal Protocol to prevent surgical error, and educational programs to improve communication and team work.</p>	E	E	E	E	E	E
<p>12.2 The hospital shall conduct internal perinatal case reviews which include all maternal, intrapartum fetal, and neonatal deaths, as well as all maternal and neonatal transports.</p>	E	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
12.3 The hospital shall utilize a multidisciplinary forum to conduct quarterly performance reviews of perinatal program. This review shall include a review of trends, all deaths, all transfers, all very low birth weight infants, problem identification and solution, issues identified from the quality management process, and systems issues.	E	E	E	E	E	E
12.4 The hospital shall participate with the Department of Health and Mental Hygiene and local health department Fetal and Infant Mortality Review and Maternal Mortality Review programs.	E	E	E	E	E	E
12.5 The hospital shall participate in the collaborative collection and assessment of data with the Department of Health and Mental Hygiene and/or the Maryland Institute for Emergency Medical Services Systems for the purpose of improving perinatal health outcomes.	E	E	E	E	E	E
<b>STANDARD XIII. POLICIES AND PROTOCOLS</b>						
13.1 The hospital shall have written policies and protocols for the initial stabilization and continuing care of all obstetrical and neonatal patients appropriate to the level of care rendered at its facility.	E	E	E	E	E	E
13.2 The hospital shall have maternal and neonatal resuscitation protocols.	E	E	E	E	E	E

	I	IIA	IIB	IIIA	IIIB	IIIC
13.3 The hospital medical staff credentialing process shall include documentation of competency to perform obstetrical and neonatal invasive procedures appropriate to its designated level of care.	E	E	E	E	E	E
13.4 The hospital shall have written guidelines for accepting or transferring mothers or neonates as “back transports” including criteria for accepting the patient and patient information on the required care.	E	E	E	E	E	E
13.5 The hospital shall have a licensed neonatal transport service or written agreement with a licensed neonatal transport service.	E	E	E	E	E	E
13.6 The hospital shall have policies that allow families (including siblings) to be together in the hospital following the birth of an infant and that promote parental involvement in the care of the neonate including the neonate in the NICU.	E	E	E	E	E	E

**Comments from Ann B. Burke, M.D, FACOG  
Representing Level III Hospitals**

September 23, 2008  
Maryland Perinatal Advisory Committee

Dear Committee Members;

It has been a pleasure to serve with you on this vitally important advisory committee. Every member of this committee proved their commitment to the women and children of Maryland by their dedicated attendance, informed debate, extensive research, and collaborative decision-making. In sum, I believe we have created a document that supports the goal of providing safe and risk appropriate care to mothers and infants. I approve the Maryland Perinatal System Standards revision of September 2008 with comment.

As a representative of Level III hospitals, I disagree with the Perinatal Advisory Committee regarding the requirement for Level IIIA hospitals to have a Maternal Fetal Medicine specialist available to be physically present in the hospital within 30 minutes (standard 4.5 and 4.6). The Guidelines for Perinatal Care, 6<sup>th</sup> edition, state regarding Level IIIA institutions “A Maternal-Fetal Medicine specialist and a Neonatologist should be continuously available for consultation 24 hours per day. Personnel qualified to manage obstetric or neonatal emergencies should be in house.” Currently in Maryland there are 2 state level task forces evaluating the severe physician shortage in Maryland: the Task Force to Review Physician Shortages in Rural Areas and the Task Force on Health Care Access and Reimbursement. Data from the Maryland Hospital Association and MedChi demonstrate the significant shortages of specialty care physicians, such as Maternal-Fetal Medicine physicians, in rural locations in Maryland. The Eastern Shore and Western Maryland areas are most significantly impacted by these shortages. At the same time, the rapid evolution of real time, interactive, and secure web-based consultations support the provision of high-level specialty care consultations to remote areas.

The Guidelines for Perinatal Care 6<sup>th</sup> edition also strongly supports family-centered care stating, “Efforts should be made throughout the neonatal course to minimize the separation of newborns and families. Economic interests and decisions should never take priority over the best interests of the newborn, the mother, the family, and the community in keeping the family together.” In Maryland, we have Level IIIA hospitals that are ready, willing and able to appropriately care for critically ill newborn babies and keep them within their community, but they do not have Maternal-Fetal specialists within their community. Requiring transfer of these infants out of their geographic area results in prolonged separation of the infant and its’ family from their community. This has significant financial, social and emotional consequences for these families.

Maryland is in the midst of a medical liability crisis. Physicians perceive Maryland to be an unfriendly state in which to practice due in part to its liability crisis. As a practicing obstetrician, I feel standards 4.5 and 4.6 create a legal liability for the Board Certified Obstetrician and the Level IIIA hospital providing care to the mother. These standards imply that a Board Certified

Obstetrician is not qualified to manage a “moderately complex” mother without the physical presence of a Maternal-Fetal Medicine specialist. I fully support providing these hard working obstetricians with real time, interactive consultation 24 hours a day. I believe the requirement to provide in person Maternal-Fetal specialty consultation within 30 minutes is overly restrictive.

The State of Maryland faces large hurdles in its goal to reduce maternal and infant mortality: lack of access to care, inadequate funding of public health care, and lack of resources for substance abuse treatment. These complex issues are beyond the scope of this committee. I feel we have done our best to create standards that in sum promote the safe care of women and infants within our Maryland hospitals.

Sincerely,

A handwritten signature in black ink, appearing to read "Ann B. Burke". The signature is fluid and cursive, with the first name "Ann" starting with a large capital letter and the last name "Burke" ending in a long horizontal stroke.

Ann B. Burke, M.D, FACOG  
Representing Level III hospitals

**Comments from Regina Kundell, MS, CRNP  
Representing Level II Hospitals**

September 29, 2008

The 2004 Maryland Perinatal System Standards, currently in place, have permitted us to address some of the geographic barriers to subspecialty care in Maryland. As a result, we now have two Level IIIA Perinatal Referral programs in Maryland – one in Frederick, representing Western Maryland and one in Salisbury, representing the entire Eastern Shore of Maryland as well as neighboring jurisdictions in Delaware and Virginia.

As a representative of Maryland Hospital Association Level II hospitals, I overall approve the proposed changes in the September 2008 Maryland Perinatal System Standards. However, I disagree with the Perinatal Advisory Committee regarding the requirement for Level IIIA hospitals to have a Maternal-Fetal Medicine specialist available to be physically present in the hospital within 30 minutes if needed (standard 4.5 and 4.6). The Guidelines for Perinatal Care, 6<sup>th</sup> edition, developed by the American College of Obstetrics and Gynecologists and the American Academy of Pediatrics, state regarding Level IIIA institutions, “A Maternal-Fetal Medicine specialist and a Neonatologist should be continuously available for consultation 24 hours per day. Personnel qualified to manage obstetric or neonatal emergencies should be in house.” These guidelines do not define “consultation” nor do they specifically state that a Maternal-Fetal Medicine specialist should be available in-house. The Perinatal Advisory Committee’s proposed change in standards suggests that Board Certified Obstetricians are not qualified to manage a “moderately complex” mother without the physical presence of a Maternal-Fetal Medicine specialist.

What differentiates Level IIIA programs from the remaining level III programs is the availability of Maternal-Fetal Medicine and the gestational age and weight at birth of neonates. While the level III programs are stratified according to the gestational age and weight at birth of neonates, the same clear cut criteria are not available for the maternal patient. In the past, it was felt that the need for and the availability of subspecialty providers for the mother further defined the level III programs.

If the proposed September 2008 Perinatal System Standards are approved as is, they will restrict the state’s ability to provide care to sick and premature newborns when there are appropriate resources already in place. Due to the shortage of Maternal-Fetal Medicine specialists, especially in rural areas, this change could lead to the elimination of at least one of the two current level III A programs. In addition to the economic impact this will have with the State of Maryland to provide transportation and potentially additional beds in other facilities, families will be separated by great distances. Families living on the Eastern Shore of Maryland are approximately two and one-half hours from Baltimore, where care would need to be provided if the Level IIIA program in Salisbury is unable to meet the proposed, more restrictive standard. There are significant financial, social and emotional consequences for these families. Simple equity demands that these residents not be penalized because they do not reside in the more urban and suburban areas of the State.

The Guidelines for Perinatal Care states, “in some states, geographic distances or demographics necessitate perinatal care programs that allow for hospitals to be approved for advanced care capability in the neonatal unit above that for the perinatal service as a whole. Under such oversight, higher-level neonatal care capability is acceptable.” In addition, the Guidelines state, “these guidelines are general and intended to be adapted to many different situations, taking into account the needs and resources particular to the locality, the institution, or the type of practice.”

While the purpose of the subcommittee has been to review and revise the current Perinatal System Standards, one cannot do so without the consideration of access to that prescribed care, given the shortage of resources in the rural areas of Maryland. There are two Level IIIA Perinatal Referral Programs that have been providing high-quality perinatal care, closer to home, families and support systems. A more stringent Maternal-Fetal Medicine standard, not completely supported in the literature, would jeopardize programs providing such care.

Regina Kundell, MS, CRNP  
MHA Level II Hospitals

**Comments from Wayne Kramer, MD  
Representing Med-Chi**

*E-mail to Ilise D. Marrazzo, September 25, 2008*

Ilise,

Approve with comment: Do not agree with recommendation that 3a hospitals require MFM coverage in house within 30 minutes

Thank You